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ABSTRACT

The encoding and processing components of moral judgment-making responses were investigated by using a "thinking aloud" response mode to Rest's Defining Issues Test (DIT) of moral judgment. Three subject groups were asked to "think aloud" as they took the DIT: (1) 30 male and female graduate students from a philosophy department of a large university (mean age was 28.5 years); (2) 29 male and female ninth grade students; and (3) 16 male seminary students of a conservative, fundamentalist theological college (mean age was 27.4 years). Dimensions of moral judgment-making were investigated in the verbal protocols and in auxiliary tests of comprehension and evaluation of DIT items. Propositions expressed by the subjects were classified as cognitive operations used to (1) understand stimuli; (2) identify facts and issues; (3) weigh alternatives, and (4) apply moral criteria to the story dilemmas. Objective and "thinking aloud" responses differentiated groups. The philosophers obtained higher objective scores and used more complex cognitive procedures and principled moral criteria. The 15-year-olds and seminarians had lower objective scores and used less complex cognitive operations and non-principled moral criteria. Moral judgment responses were shown to be multi-dimensional and analyzable for cognitive and moral component propositions. (Author/SS)

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COMPONENTS OF MORAL JUDGMENT-MAKING RESPONSES

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ABSTRACT

A process analysis was made of three subject groups' verbal problem-solving responses to dilemmas related to social justice and two sets of stage-related stimulus items.

Philosophy graduates, 15-year-olds and conservative religious seminarians completed an objective test of Opinions about Social Problems: Rest's (1974) Defining Issues Test under the "thinking aloud" problem-solving condition. Dimensions of moral judgment-making were investigated (a) in the verbal protocols and (b) in auxiliary tests of comprehension and evaluation of DIT items.

Verbalized propositions were described as cognitive operations subjects used to (i) understand stimuli; (ii) identify facts and issues; (iii) weigh alternatives and (iv) apply moral criteria to the story dilemmas.

Objective and verbal responses differentiated groups. Philosophers obtained higher objective scores, used more complex cognitive procedures and principled moral criteria. 15-year-olds and seminarians had lower objective scores, used less complex cognitive operations and non-principled moral criteria.

Moral judgment responses were shown to be multi-dimensional and analyzable for cognitive and moral component propositions.

INTRODUCTION

Moral judgment responses have been the products of moral reasoning generally obtained in one of two experimental paradigms. Either responses have been retrospective justifications of solutions to dilemmas, obtained in clinical interviews (Piaget, 1932; Kohlberg, 1958); or they have been objective ratings and rankings of stage-keyed statements of Rest's (1974) Defining Issues Test. Both paradigms have yielded data to describe how people develop in their moral orientation over time, with age and education and other cognitive and social-emotional experiences (Kohlberg and Kramer, 1969; Rest, Davison and Robbins, 1978; Rest, in press).

Kohlberg (Kohlberg, Colby, Gibbs, Speicher-Dubin and Power, 1978) codes as "moral judgment" material only those parts of an interview transcript in which the subject expresses prescriptions about what the story agent "ought to do" when in a dilemma. "Oughts" are imperatives predicated on conflicts of human interest and demands on social justice. Rest's Defining Issues Test (DIT) indexes a subject's forced choice ratings and rankings of items (which express issues as stage-typed) ways of defining the essential issues in a dilemma.

Kohlberg's interview data yield a single Moral Maturity Scale score and a predominant stage designation of a person's moral judgment level. DIT responses yield two scale scores derived separately from a subject's objective ratings and rankings. The D Scale indexes a subject's rating of the individual importance of each of twelve items for defining each of six stories (Davison and Robbins, 1978). The P (Principled) Scale score indexes a subject's relative rankings of the same twelve items into the four most important issues contained in each dilemma (Rest, 1974; Rest, Cooper, Coder, Masaz and

Anderson, 1974). Each scale locates a group's mean score on a single monotonic scale of development for comparison with group norms from over one hundred homogeneous and heterogeneous samples (Rest, 1976; Rest et al., 1978). Both the Kohlberg interview and the Rest objective test describe levels of moral judgment development.

Traditional empirical focus on moral orientation and judgment criteria in moral judgment responses has tended to preclude the examination of other dimensions of moral judgment-making which may exert immediate and powerful influences on subjects' solutions of the dilemmas, for example how a subject actually understands and encodes stimuli and how s/he uses factual information.

Cognitive and personal factors have been viewed as indirect influences correlative with moral orientation levels rather than as identifiable dimensions of moral judgment responses. Such factors as cognitive ability and social perspective-taking have been posited as prerequisites of different moral judgment levels (Kohlberg, 1969; Tomlinson-Keasey and Keasey, 1974; Selman and Damon, 1975). Demographic and experiential variables have been correlated with moral judgment scores, for example, social class, years of education, geographic location and religious affiliation (Rest, 1976). It is possible that these and task. situational and subject processing factors provide more immediate components of a subject's response.

Situational and task variables have been shown to influence diagnosis of levels of cognitive development (Bortner and Birch, 1970; Zimiles, 1971; Flavell, 1977). Personal factors influence how a person actually processes stimulus information. Children and adults draw different kinds of inferences from the same written text dependent on their frames of reference, schemata and scripts, and attention to the message (Clark, 1975; Schank and Abelson, 1975; Thorndyke, 1976; Fredericksen, 1977). Subjects' processing of hypothetical moral dilemmas in test-taking situations may involve more than a simple, direct application of moral orientation.

Philosophical arguments proposed by Kurt Baier (1963), Dewey (1933) and David Aiken (1952) suggest that judgments in general and value-judgments in particular, can be expected to involve different judgment-making dimensions. Baier argues that value judgments require different identification, sorting and weighing considerations. An analysis of the nature of moral judgment-making (Lawrence, 1973) yielded the proposition that moral judgment responses are not unitary constructs,

but can be expected to involve cognitive operations for several encoding and processing procedures. Major dimensions were assumed to include cognitive operations for:

(a) understanding the stimulus in-put;

(b) recognizing and extracting patterns in the data;

(c) identifying relevant facts and issues in the story;

(d) applying moral criteria and other belief-system criteria for decision-making, and

(e) sorting and weighing issues, facts and criteria.

From these original conceptual propositions and from data obtained in 25 pilot interviews using the "thinking aloud" condition, seventeen empirical descriptors were obtained to describe propositions expressed by graduate students, professional adults and ninth graders while they were processing the DIT stimulus items. By combining the rigour of the objective test with the rich data obtained by asking subjects to think out loud while completing the test, the data-collecting technique of the study was expected to provide information about the components of moral judgment-making responses. The technique provides a way of obtaining information about all types of dimensions to a solution, without the clinical probes and possible experimentor leading of the Kohlberg interview (Kurtines and Grief, 1974; Rest, in press).

Thinking aloud verbal protocols have provided evidence of cognitive processes used by subjects while working on various types of problem solving tasks. Data have been obtained to describe processes behind solutions to both well-defined and ill-defined types of problems (Mayer, 1977) in the areas of:

(a) games and problems (Newell and Simon, 1972; Simon, 1975; Ericcson, 1975);

(b) logic and mathematics (Danscreau and Gregg, 1966; Gagne and Smith, 1962); medical diagnostic work-ups (Elstein, Shulman and Sprafka, 1978;and Mandernach, 1979); Piagetian tasks (Pitt, 1976) and personal and occupational decision-making (Clarkson, 1962; Payne, 1975; 1976).

Although Piaget originally had approached moral judgment as problem-solving, his work preceded the recent advances in human problem-solving research. However, the stimuli used effectively in many problem-solving studies are similar to moral dilemmas in

involving personal value stances, and in not having "correct", definable solutions (Braunstein and Coleman, 1967; Goor and Sommerfield, 1971; Payne, 1975; 1976).

By describing a subject's concurrent verbalization of what s/he is thinking in the experimental situation, the research can obtain direct, dense, albeit incomplete information about the cognitive processes used in the task (Newell and Simon, 1972; Gagne and Smith, 1962; Ericsson, 1975). Researchers using the method are not claiming isomorphism between covert cognitive processes and verbalized reports (Hayes, 1968) but that the technique provides one type of information about what people are thinking which cannot be otherwise obtained (Harré and Secord, 1973; Lawrence, 1979[1]). Benjafield (1969) has shown that concurrent verbalisations of thoughts are different from introspective data in form, language structure and in their greater completeness.

The taxonomy of components of moral judgment-making obtained from philosophical arguments of the multi-dimensionality of moral judgment responses, and from the pilot data provided a means of identifying and labelling each proposition expressed by subjects in the DIT moral judgment task situation. The taxonomy is presented in Figure 1 with components defined under the dimensions of moral judgment-making.

FIGURE 1 ABOUT HERE

The scheme for identifying moral judgment components differs from the Kohlberg scheme in (a) identifying components other than prescriptive moral criterion propositions and (b) in the classification of moral criteria.

Cognitive components are identified as evidence of subjects' ways of understanding the stimuli, recognizing patterns, identifying relevant facts and issues and sorting and weighing issues, facts and moral criteria. These cognitive processes which take into account more information and involve some kind of integration and evaluation represent more complex problem solving activities (Bloom, 1956; Gagne, 1964). Identification of Issues propositions were defined

as those in which a person identifies the issue to encapsulate the problems in each dilemma rather than concentrating on surface information. Weighing alternatives operations were defined as those in which a person deliberates over the information, sorts conflicting evidence and weighs pros and cons of a possible solution.

Moral criterion propositions are different from Kohlberg's prescriptives in three ways.1) They follow consciously Rawls' (1971) theory of justice as fairness, via Rest's (in press) modified moral judgment theory.2) In response to difficulties in stage-typing responses (Flavell, 1977; Rest (in press)) prescriptive elements are dichotomized into only two classes, predicated on conflicts of human interest and demands on social justice, rather than into Kohlberg's six stage types.3) Moral principles are carefully defined as abstract guidelines for decision-making with characteristics of universality, generality, impartiality and preemptiveness. Abstract ideals or guidelines are applied to individual problems with due attention to situational factors and with deliberation on the relative weights of features and principles (Lawrence, 1973; Peters, 1963; 1972; Rawls, 1971). The coding system was designed to reflect these Rawlsian concepts of moral principles, and to differentiate propositions predicated in this way from those predicated primarily on a single set of concerns which lack the abstract, relativistic features of principled criteria. These non-principled moral criteria reflect Rest's (in press) definition of stages two to four considerations, while principled moral criteria reflect his Stage 5 and 6 predications.

Two other classes of moral criteria occurred infrequently in the pilot data, but required identification, that is prescriptive propositions predicated on intra-personal considerations, or those without specific predication. These can occur when clinical probes are not used.

It was expected that the data-base and the taxonomy would provide a comprehensive description of the moral judgment-making responses obtained from subjects responding to the DIT rating task.

Three subject groups were selected to polarize DIT objective scale scores and to permit the examination of the components of terminal responses expected to be located at different levels of moral judgment development.

It was expected that philosophy graduate students would obtain higher scores of both the D and P objective indices of moral judgment development, would use more complex procedures to process moral judgment stimulus items and would show use of principled moral criteria. Philosophy graduates had obtained the highest group norms for DIT samples (Rest, 1974; 1976). Ninth graders could be expected to have lower moral judgment scores, have more difficulty in understanding the stimuli and show less complex processing of the information. Ernsberger's (1975) comparison of religiously liberal and conservative congregations showed that religious conservatism could be expected to be related to low moral judgment objective scores and that processing would be heavily influenced by religious belief systems of conservative orientation. (Ernsberger, 1975; Blackner, 1975; G.Rest, 1977). Ninth graders and seminarians were expected to use less complex processes on the stimuli than the philosophy criterion group and to use more non-principled than principled moral criteria.

METHOD

Subjects.

Two subject groups were chosen for age and years of educational experience; the most powerful correlate of levels of moral judgment development (Rest, 1976). (a) Thirty philosophy graduate students (19 males, 11 females) were recruited by mail and personal contact through the philosophy department of a large mid-western university. Philosophy graduate students previously had obtained highest group norms on the DIT (Rest, 1974; 1976). Mean age was 28.5 years. Two subjects whose interview tapes were damaged were eliminated from the sample. (b) Twenty-nine ninth grade students (14 male, 15 female) volunteered to participate, in response to letters sent to a random sample of all ninth graders at a metropolitan high school in the same city. Ninth graders were selected

as a group expected to have low scores on the DIT, but expect to have adequate reading and verbal skills for the task (Rest, 1976). One subject who failed to complete all tasks was eliminated from the sample. (c) The third group was comprised of 16 male seminary students of a conservative, fundamentalist theological college in the same city. Mean age was 27.4 years. Subjects who enrolled in masters courses or who had completed graduate courses were recruited by announcement, letter and personal contact. One subject withdrew from the study.

Materials and Tasks.

The standard DIT was used in a pre-test. The test is comprised of six dilemmas and 12 items containing moral issues for a subject's rating and ranking in defining each dilemma. For the thinking aloud interview two dilemmas were chosen after piloting as those most resembling classical moral dilemmas in which two unattractive alternatives are pitted against each other. Analysis of subjects' rating responses was confined to 15 issue-containing items on the two stories; six each of principled and stage two or three items, two meaningless "catch" items and one atypical principled item. This selection permitted the comparison of high and low rating responses of high-level moral thinkers and low-level moral thinkers to high-staged and low-staged items.[2]

DIT standard tests were computer scores for P and D scale scores. The P scale indexes a subjects' use of principled items in ranking choices and yields a P% score. The D scale is an empirically weighted average which indexes subjects' ratings of all stage-typed items and indicates the importance a subject attaches to principled statements, relative to the importance s/he attaches to low-staged items (Davision, et al., 1978). As subjects' reasons for their objective responses were available in the verbal data, Rest's (1974) usual consistency checks were not used to purge the sample.

Procedure.

Two phases of the study were separated in time. After

an initial contact, subjects were mailed the DIT, and asked to return it in two weeks. Approximately two weeks later each subject was interviewed individually by the same experimenter, either in a university, school or seminary room. Two seminarians were interviewed at home. No time constraint was imposed. All interviews were audio-taped and transcribed for analysis of all identifiable propositions expressed by each subject.

Written instructions were read aloud by the subject, and his or her free response to the dilemma was used as practise in thinking aloud. Each subject completed rating and ranking tasks for the two stories, with story order counterbalanced across the sample. Standardized probes involved asking the subject to think out loud and to verbalize thoughts when s/he was silent for more than a few seconds. If the subject responded with quick, automated responses, defined as Positive and Negative Recognition Propositions, a further "Why?" question was posed. Clinical probes were not used. Any probed answers not meeting standardized criteria were not coded as data. Some subjects, particularly the younger ones, need prompting to keep speaking. Each subject was invited to record his/her own objective responses with materials provided. Most did so. The experimenter kept duplicate records and notes of subject's behaviour.

RESULTS.

1. DIT SCALE SCORES.

(a) DIT Pretest. Philosophers showed greater use of high-principled items and less use of low-staged items in DIT ratings than either the the ninth grade or seminarian groups. These ratings are indexed on the D scale. Philosophers had significantly higher mean D scores than seminarians, whose mean D scores were significantly higher than ninth graders' $F(2,72) = 30.67$, $p < .001$. Planned comparisons of the pairs of means were significant, using the Newman-Keuls studentized range statistic, ($p < .01$), (Winer, 1962).

Philosophers also used more principled items when ranking the four most important items for each dilemma. These ranking responses are indexed by the P Scale. Philosophers had significantly higher mean

P% scores than ninth graders, whose mean P scores were significantly higher than the seminarians', $F(2,72) = 55.43$, $p < .001$. Planned comparisons of the means were significant, using the Newman-Keuls studentized range statistic, ($p < .01$).

Means and standard deviations for D, and P% scores on the pretest are shown in Table 1. A Pearson produce moment correlation of $r = .71$ ($p < .01$) was obtained for D and P scores.

TABLE 1 ABOUT HERE

(b) Interview D scores. Philosophers had significantly higher D scores than ninth graders, or seminarians, $F(2,74) = 9.81$, $p < .0005$). Planned comparison of pairs of means were significant, using the Newman-Keuls studentized range statistic ($p < .01$). Means and standard deviations of D scores on the two interview stores are presented in Table 2. The P scale is not suitable for use with only two stories (Rest, 1974).

TABLE 2 ABOUT HERE

2. Component Procedures of Moral Judgment-Making

The taxonomy of 17 component procedures identified 4 121 separate propositions expressed by 75 subjects across 15 items. Each identifiable individual proposition expressed by a subject was coded with a single component procedure label. The data were analyzed for: a) inter-judge agreement in applying the taxonomy to the data,

b) description of the subjects' thinking by empirically discriminable descriptors of the verbalized propositions, and

c) description of any differences in the way the subject groups used component procedures.

a) Inter-judge agreement. Each subject's verbal protocols for two stories were coded by the experimenter and two sub-sets were coded, each by a different coder. One coder applied the seventeen component procedures to the data, and another coder differentiated among the classes of moral criterion propositions.

Inter-judge agreement coefficients were calculated for the coding of a sub-sample of 50 verbal protocols using 18 original component procedures which were later reduced to 17. Inter-judge agreement was indicated by total agreement for 78% of the 1459 propositions and a Cohen's kappa of .78, (Tinsley and Weiss, 1975; Frick and Semmel, 1978). Disagreements were resolved after calculation of agreements, either by conference, or by the experimenter with use of the second coder's notes.

Inter-judge agreement coefficients were calculated for the coding of all moral criterion propositions in a sub-sample of 53 protocols. Moral criterion propositions were coded in four classes of: principled criteria, non-principled criteria, criteria without predication, or criteria predicated on intrapersonal considerations. Inter-judge agreement was indexed by total agreement of 85% of the 347 propositions, and a Cohen's kappa of .71. Disagreements were resolved subsequently by conference.

Inter-judge agreement levels and the ability of the taxonomy to account for the identifiable propositions in the data confirmed the usefulness of the taxonomy as a set of empirical descriptors of subjects' verbalization of their thoughts during a moral judgment task.

b) Description of subjects' verbalization by discrimination of types of verbalized propositions.

An over-all similarity was found in the types of propositions expressed by the three subject groups. All three groups showed some use of each of the 17 component procedures. Each individual subject's frequency of expression of each component procedure was computed as a proportion of that subject's total number of expressed propositions. The mean proportional use of each component was calculated for each of the three groups. Each group's mean proportional use of each component procedure was transformed using the arcsin transformation, to achieve homogeneity of variance (Kirk, 1968, p.66). Using the transformed mean proportions, a three subject group x 17 mean proportional use of component procedures two-way analysis of variance was computed with repeated measures of mean proportional use.

Different types of propositions were used in different proportions of over 1400 propositions expressed by the 75 subjects. The propositions provided evidence of the cognitive operations used by these subjects on the moral judgment task. Each component was emitted at least once by each of the three subject groups. A main effect was obtained for repeated measures, $F(16,1152) = 87.61$, $p < .0001$), indicating that for the total sample the components were expressed in different proportions of the total number of expressed propositions.

The three subject groups' over-all distribution of use of the component procedures were similar. Comparisons of rank orderings of raw frequencies of use were not significantly different ($p > .05$) using Kendall's tau test (Siegel, 1956). The main effect for subject group was marginally significant ($p < .07$) but was not the focus of the analysis of variance. Major interest was in the interaction of component procedure and subject group.

The three components with highest proportional use by all 75 subjects were Moral Criterion (all classes combined) with mean proportional use of .25, Practical Considerations with mean proportional use of .15, and Identification of Issues with mean proportional use of .12, Non-Principled Moral Criteria obtained highest proportional use for a single type of proposition .16. Transformed mean proportional use of all 17 components are shown in rank order of proportional use in Table 3.

TABLE 3 ABOUT HERE

The taxonomy provided a comprehensive description of of the verbal protocols. Component procedures other than prescriptive moral criteria accounted for 75% of the subjects' verbalized thinking. While there were similarities in the relative use of components, certain significant differences were obtained in the three groups' proportional use of ten component procedures. F and t tests are approximate at best. The focus of the analysis was on the description of subject group x component procedure interactions and the analysis of variance was used for descriptive purposes. Major sources of interaction are shown in Figures 2, 3, 4. Distribution of the components are compared for:

philosophers versus ninth graders (Figure 2), philosophers versus seminarians (Figure 3) and seminarians versus ninth graders (Figure 4)

FIGURES 2, 3, 4 ABOUT HERE

Inspection of these graphs shows that the locus of interaction lies in the subject groups' differential use of ten component procedures. Planned comparison of means of interest were made for each component procedure, using the Newman-Keuls studentized range statistic. Comparisons yielded the following differences in the three groups' proportional use of several components:

i) Philosophers used greater proportions of three components than ninth graders who used them in greater proportion than seminarians: Identification of Issues, Weighing Alternatives and Positive Recognition ($p < .01$). The philosophers also used Principled Moral Criteria in greater proportion to their own use of Non-Principled Moral Criteria ($p < .01$).

ii) Ninth graders used two components in greater proportions than philosophers who used them in greater proportions than seminarians: Don't Understand and Practical Considerations ($p < .01$). Ninth graders used Story Information in greater proportion than seminarians who used it in greater proportion than philosophers ($p < 01$). Ninth graders used Non-Principled Moral Criteria in greater proportion than seminarians who used it in greater proportion than philosophers ($p < 01$) The adolescents' proportional use of Non-Principled Moral Criteria was in excess of their proportional use of Principled Moral Criteria.

iii) Seminarians used Religious Criteria in greater proportion than ninth graders or philosophers (both of whom used the category only twice ($p < .01$). The seminarians used Non-Principled Moral Criteria proportionally in excess of Principled Criteria.

In summary, the subject groups' expression of component procedures and especially their expression of moral criterion propositions showed that philosophers used more complex cognitive operations

and more principled moral criteria than the other two groups in processing the standard stimulus items. Ninth graders used a predominance of non-principled moral criteria and showed less complex cognitive processing than the philosophers. They centred on practical details and information from the stories. Seminarians showed use of more non-principled than principled moral criteria similar to that of the ninth graders and a consistent tendency to express religious considerations.

DISCUSSION

The descriptive analysis was able to provide a means of examining specifically moral criterial propositions apart from, and together with other types of propositions freely emitted by subjects while responding to a standard moral judgment task. Dimensions of moral judgment-making were identified and were used to differentiate subject groups in terms of the components of their moral judgment-making responses. The components in the verbal data were related to the standard objective terminal responses.

The taxonomy of 17 component procedures provided a comprehensive description of the kinds of propositions expressed by three subject groups different in age, years of education and mean objective moral judgment scores. Different types of propositions were identified empirically and were used to distinguish moral and non-moral dimensions of subjects' total responses to the stimulus items.

Various types of propositions were expressed by the subjects in their efforts to: understand stimuli and recognize value patterns in the items, identify relevant facts and issues of the dilemmas and sort and weigh factors to produce terminal objective responses. Propositions that were not explicitly moral prescriptives were either other-than moral propositions, or they were value-laden operations which identified issues and usually preceded the application of moral criteria, that is, Identification of Issues, Not Applicable and Religious Criteria.

Moral criterion propositions which accounted for 25% of all verbalized propositions resembled prescriptive statements usually

coded in moral judgment interviews. This implies that the Kohlberg scheme may be losing three-quarters of what subjects say when they are not pressed to give prescriptive statements. The present scheme accounts for far more of a subject's total response than Kohlberg's scheme and provides a more comprehensive picture of what a person does when working on a moral dilemma.

The more detailed description is illustrated in the responses of two ninth graders to the same low-staged item. The item is Doctor's Dilemma Item 4 (Stage Two) "Whether or not the doctor can make it appear like an accident?". Both subjects reject the item as of little importance. The first applies a non-principled criterion related to the doctor's self interest.

> That was of little importance really, because the doctor shouldn't have done it in the first place... if he made it appear like an accident, well he could get malpractice too, doing that (MC(NP)) family'd probably get down on him (Practical Consideration).

Self-interest follows from the subject's identification of a practical possibility: the family could sue him. The second ninth grader does not refer to issues related to self-interest or others' human interest. Identification of a practical possibility makes the item irrelevant to the dilemma's definition.

> That has little to do with it because... if he's going to do it anyways, they're going to finally trace it to him and find that he did give her an overdose purposely (Practical Consideration). But that has little to do with this story (Not Applicable) because it's on whether or not he should do it. (Identification of Issue).

The usefulness of the description is exhibited in its identification of the different components of the same rating response. The objective terminal responses of the DIT would not have shown anything of their content. The Kohlberg instrument would have pushed for a moral prescriptive when the second subject reached a satisfaction solution without one.

Several individual components of the descriptive analysis are useful in examining the nature of the moral dilemmas and of the nature of moral judgments.

One value-oriented category, Identification of Issues reflects somethings of the dilemma-like quality of the stories. Kohlbergian stories were designed to pit in conflict two or more human interests. The particular responses which they draw out may be as much related to their form as dilemmas as to their moral character. The category permits the specification of human interest issues. For example, one philosopher used the identification component prior to the application of moral criteria. Doctor's Dilemma, Item 8 (a principled statement) asks "Whether helping to end another's life is ever a responsible act of co-operation". The philosopher responded with:

> That's a very important question. And the answer to that I suppose would rest on how one felt about the absolute sanctity of life (Identification of Issue) versus humane acts of co-operation (Identification of Issue) . . .

Principled moral criteria are than applied to the Issues:

> ... if his relationship with his patient is viewed as contractual than he's certainly responsible for co-operating with her wishes (MC Principled) ... (S 304).

By identifying the juxtaposition of conflicting issues, the Identification of Issues category specifies some of the ways subjects recognize and respond to the no-solution, no-win nature of moral dilemmas which previously had not been specified empirically.

The seminarians' responses indicated that not all subjects process the stories primarily from a social justice perspective. These religious conservatives gave heavy attention to religious considerations. In experimental studies in progress, manipulation of story in-put is associated with different decisions about dilemmas from students from a catholic and a state high school (Moore and Lawrence, 1979). The immediate influence of religious and other belief structures in moral judgment-making has not been identified empirically. The seminarian data show immediate application of strong beliefs. It seems that these subjects were transforming the moral dilemmas out of the realm of social justice into the realm of religion, and out of the mode of dilemma into

the mode of a story with a pre-determined solution. The comprehensive coding system permitted the identification of the religious belief component, and other components of the low-level terminal objective scores gained by these graduate students. Other belief structure influences may exert similar influences in other samples.

The identification of non-moral and other value-oriented responses does not detract from the centrality of morally prescriptive criteria. Rawls, Kohlberg and Rest have all argued that the intrinsic mark of a moral dilemma is the basic conflict of interests and the claim on social justice it entails. Moral criteria categories when combined showed the most consistent use of all proposition types. These subjects were responding to the intrinsically moral nature of the problems. Minimal use of two classes of moral criteria in excess of social justice predicates indicated the need for further definition of areas of moral judgment research, that is, those propositions without specific predication, and those predicated on intrapersonal concerns. It may become more useful and more accurate to designate the Kohlberg-Rest types of problems as social justice and co-operation problems and to identify empirically other types of moral issues (Lawrence, 1973; Sullivan, 1977; Rest, in press).

By dichotomizing social justice criteria propositions into broad principled and non-principled categories, the scheme avoids some of the problems of strict stage typing. Flavell (1977) and others have demonstrated the difficulty of being confident about any strict staging of responses. Kohlberg's dominant stage concept does not find as much empirical support as Rest's (in press) modified idea of examining a subject's profile of responses over more than two or three adjacent stages. The present data show that all three subject groups expressed some principled criteria and some non-principled criteria. However, there was heavy skewing of responses to one or other category. General support was found for the concept of a broad dominant system of moral reasoning, with evidence of some fluctuations. These fluctuations were evidenced mainly in relation to the stage-typing of the stimulus items. There was some pull towards another system of thinking. Philosophers expressed some non-principled thinking, mostly on non-principled items; the other subjects expressed some principled thinking, mostly on principled items. Yet generally and predominantly one class of response was evidenced in a subject group's prescriptive statements. Even though the classes are far

broader than Kohlberg's, they were able to differentiate between subject groups. The coding scheme provides a way for analyzing verbal data in relation to the weaker stage theory.

It also describes the association of non-principled moral criteria with less complex processing of the given information shown by the ninth graders and seminarians. Developmental differences in complexity of processing of problems has been found by Pitt (1976). Her younger subjects used less sophisticated reasoning than adults on chemistry problems. Dickenson's (in preparation) data show associations between levels of moral reasoning and cognitive processing similar to those found in the present data. Family groups exhibiting higher P scores used more complex reasoning than other family groups.

In short, the present data show the usefulness of identifying both moral and cognitive components of moral judgment-making. The identification of dimensions provides a more comprehensive picture of moral judgment responses and a more detailed differentiation of subject groups. Dimensions can be related to standard objective terminal responses and can describe antecedent differences in the same produce scores.

The use of thinking aloud data avoids some of the problems inherent in the usual moral judgment interview as well as providing more information. Of course, problems related to the use of verbal protocols are shared with other problem solving paradigms, that is, those related to the representativeness and completeness of the verbal reports. However, there is no more direct way of finding out what subjects are thinking while they are thinking (Lawrence, 1979). The present data are sufficiently informative and add enough to previous information of moral judgment responses to indicate the value of the new data-base. Unprobed protocols and objective scores when used together introduce a new level of control to moral judgment interviews. Subjects' subsequent card sorts of items, and other tests provided corroborative evidence of data from the verbal reports.[3]

There was a high level of agreement between moral judgment levels as indexed by the DIT objective scales and the free expression

of moral criteria in the verbal data. This phenomenon in the data lends confidence to the assumption that the present data are evidence of similar underlying systems of moral reasoning to those found in other moral judgment studies.

Criticisms could be made of the additional constraints imposed in the thinking aloud condition and the possible changes it brings to subjects' reasoning (Ericcson, 1975). Responses were not compared across the standard and verbal modes. DIT items were used as standardized stimuli for thinking aloud responses. By describing unprobed moral judgment responses to controlled stimuli the study provides new information about the nature of subjects' processing of social justice dilemmas.

Reference Notes.

[1]Lawrence (1970) builds an argument for the plausibility and usefulness of thinking aloud evidence based on Harre and Secord's Open Souls Doctrine of the usefulness of self-reports.

[2]Comparisons were made of subjects' responses to principled, low-staged and meaningless items in the larger study (Lawrence, 1978).

[3]Two cards sorts of subjects' comprehension and evaluation of the DIT items showed that philosophers better understand and evaluate principled items more highly than either ninth graders and seminarians (Lawrence, 1978).

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Table 1

Means and Standard Deviations

For D, and P % Scores on

the DIT Pretest

	Mean D Score	Mean P % Score
Philosophers (n=30)	32.23 s.d. 7.63	56.78 s.d. 7.76
Ninth graders (n=29)	18.9 s.d. 5.81	30.75 s.d. 7.06
Seminarians (n=16)	24.89 s.d. 5.49	22.47 s.d. 6.11

Table 2

Means and Standard Deviations for D

Scores on Two Interview Stories

	Means	s.d.
Philosophers (n=30)	23.29	3.38
Ninth graders (n=29)	19.24	3.75
Seminarians (n=16)	21.36	3.28

Table 3

Proportional Use of 17 Component Procedures

By the Sample of 75 Subjects, in Rank Order

No.	Component Procedures	Mean Proportional Use
(12A.)	Moral Criterion (Non Principled)	.16
(9.)	Practical Considerations	.15
(6.)	Identification of Issues	.12
(4.)	Understanding Stimulus Item	.09
(17.)	Not Applicable	.09
(12B.)	Moral Criterion (Principled)	.08
(3.)	Don't Understand	.06
(10.)	Story Information	.04
(1.)	Positive Recognition	.04
(11.)	Religious Criterion	.04
(2.)	Negative Recognition	.04
(16.)	Weighing Alternatives	.03
(5.)	Division of Item	.03
(8.)	Analogy and Personal Experience	.01
(7.)	Role-taking	.01
(12C.)	Moral Criterion (No Justification)	.005
(12D.)	Moral Criterion (Intrapersonal)	.003

from "Components of Moral Judgment-Making Responses"

FIGURE 1: DIMENSIONS AND COMPONENTS PROCEDURES OF MORAL JUDGMENT-MAKING

J.A. Lawrence, Murdoch University (1979)

DIMENSIONS OF MORAL JUDGMENT-MAKING

PROPOSITIONS EXPRESSING :

COMPONENT PROCEDURES

I IMMEDIATE RECOGNITION	II UNDERSTANDING	III CONCEPTUAL PROCESSING	IV MORAL CRITERIA	V WEIGHTING
1. Positive Recognition: strong, immediate positive pattern recognition response	4. Understanding stimulus Item: strategy(ies) for understanding stimuli	6. Identification of issue(s): subject defines defining issues in stimuli	12a. Moral criterion, (non-principled) Subject applies single predicate prescriptive on obedience, instrument egoism, interpersonal concordance, law and social order	16. NOT APPLICABLE: Subject rejects item as irrelevant to issues
2. Negative Recognition: strong, immediate negative pattern recognition response	5. Division of item into separate propositions	7. Role-taking subject identifies with story agent		17. WEIGHING ALTERNATIVES: Subject sorts and weighs facts, issues, criteria
3. Don't Understand: Subject can't understand item		8. Analogy or Personal experience: Subject refers to analogous situation	12b. Moral Criterion (principled): Subject applies universal, abstract, relativistic guidelines a prescriptive about social justice	
		9. Practical considerations: Subject applies facts, conjectures, examples		
		10. Story Information: Subject refers to story details	12c. Moral Criterion, (no justification): Subject applies prescriptive without predication	
		11. Religious Criteria: Subject applies religious concept article belief or rule	12d. Moral Criterion (intra-personal): Subject applies prescriptive based on individual personal referents	

FIGURE 2
PROPORTIONAL USE OF SEVENTEEN COMPONENT PROCEDURES, FOR PHILOSOPHERS (n = 30) AND NINTH GRADERS (n = 29).

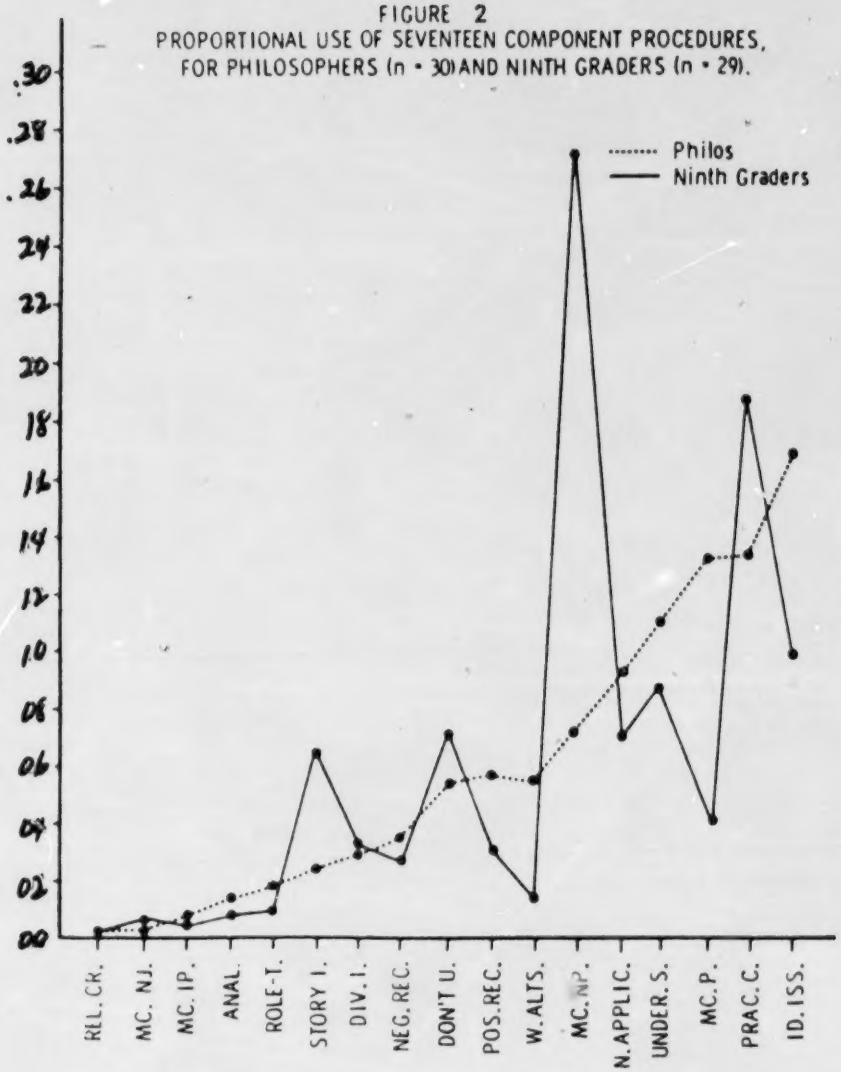


FIGURE 3.
PROPORTIONAL USE OF SEVENTEEN COMPONENT PROCEDURES, FOR PHILOSOPHERS (n = 30) AND SEMINARIANS (n = 16).

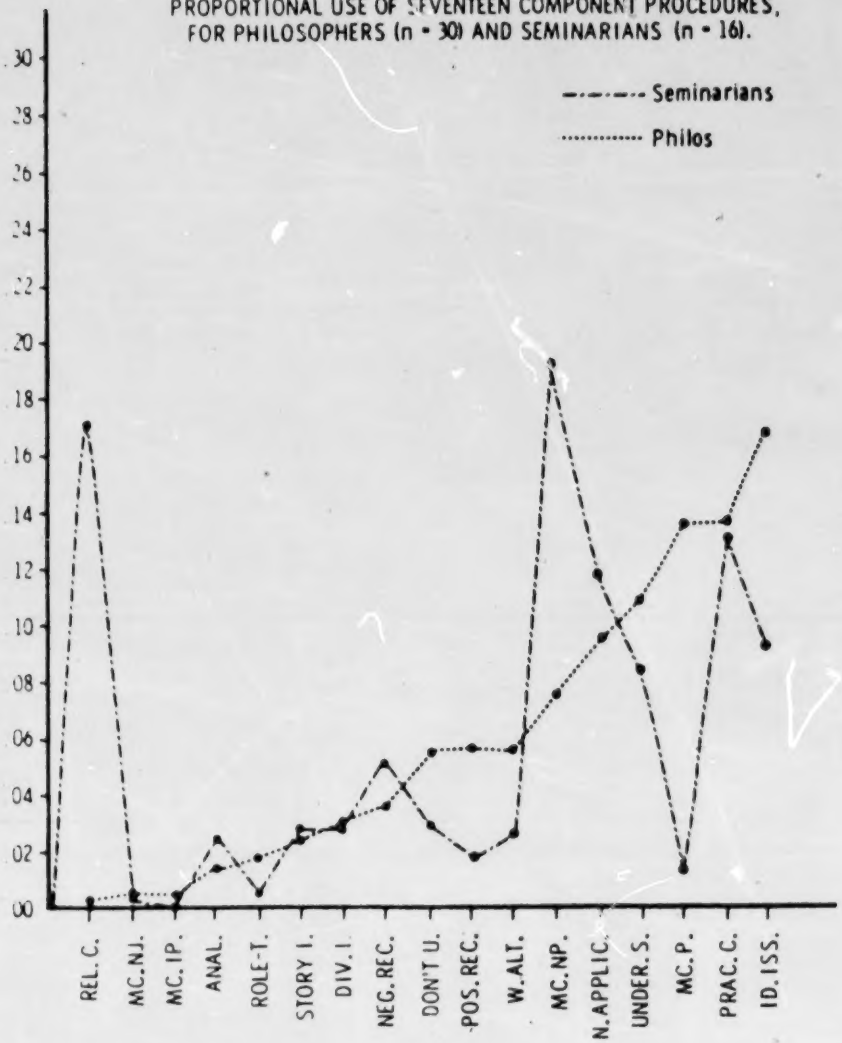
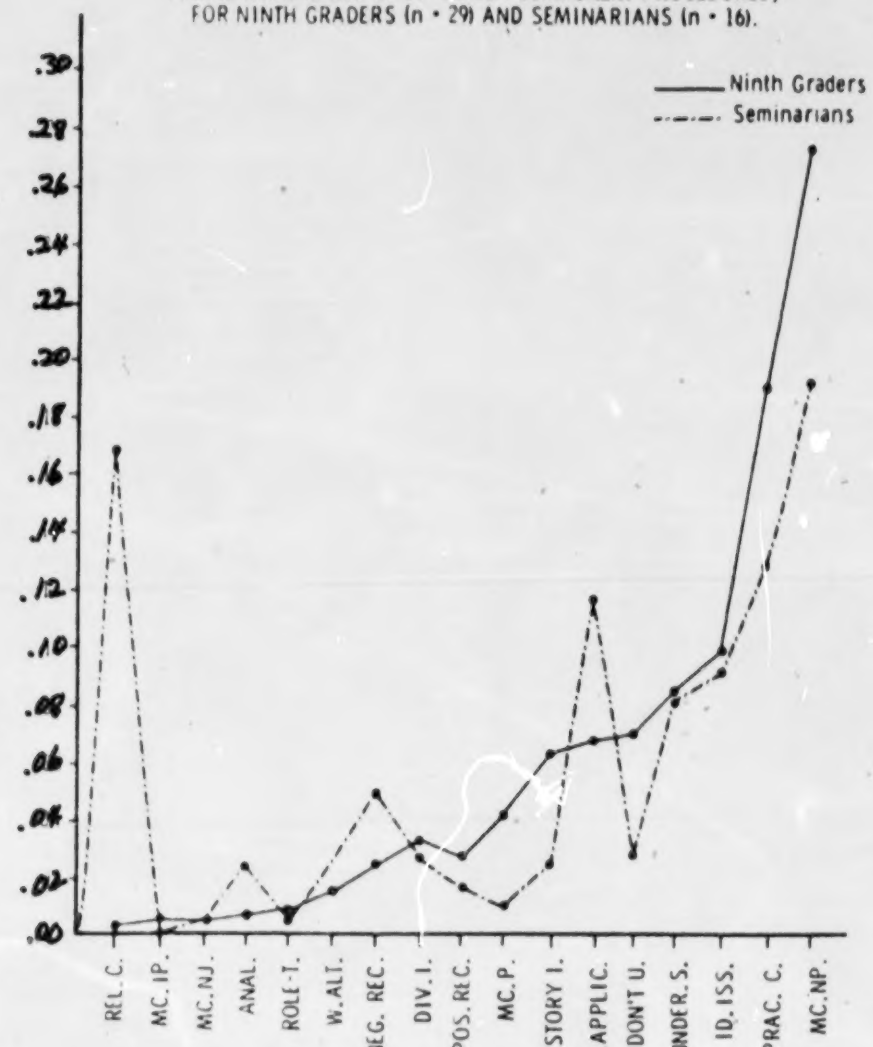


FIGURE 4.
PROPORTIONAL USE OF SEVENTEEN COMPONENT PROCEDURES, FOR NINTH GRADERS (n = 29) AND SEMINARIANS (n = 16).



ESCAPED PRISONER

A man had been sentenced to prison for 10 years. After one year, however, he escaped from prison, moved to a new area of the country, and took on the name of Thompson. For 8 years he worked hard, and gradually he saved enough money to buy his own business. He was fair to his customers, gave his employees top wages, and gave most of his own profits to charity. Then on day, Mrs Jones, an old neighbour, recognized him as the man who had escaped escaped from prison 8 years before, and whom the police had been looking for.

Should Mrs Jones report Mr Thompson to the police and have him sent back to prison.
(Check one).

____Should Report him _____Can't decide ____Should not report him.

IMPORTANCE

Great	Much	Some	Little	No	
					1. Hasn't Mr Thompson been good enough for such a long time to prove he isn't a bad person?
					2. Everytime someone escapes punishment for a crime, doesn't that just encourage more crime?
					3. Wouldn't we be better off without prisons and the oppression of our legal system?
					4. Has Mr Thompson really paid his debt to society?
					5. Would society be failing what Mr Thompson should fairly expect?
					6. What benefits would prisons be apart from society, especially for a charitable man?
					7. How could anyone be so cruel and heartless as to send Mr Thompson to prison?
					8. Would it be fair to all the prisoners who had to serve out their full sentences if Mr Thompson was let off?
					9. Was Mrs Jones a good friend of Mr Thompson?
					10. Wouldn't it be a citizen's duty to report an escaped criminal, regardless of the circumstances?
					11. How would the will of the people and the public good best be served?
					12. Would going to prison do any good for Mr Thompson or protect anybody?

From the list of questions above, select the four most important :

Most important _____

Second Most Important _____

Third Most Important _____

Fourth Most Important _____

Extracted from

Opinions About Social Problems

(With permission, J.R. Rest, 1974)

THE DOCTOR'S DILEMMA

A lady was dying of cancer which could not be cured and she had only about six months to live. She was in terrible pain, but she was so weak that a good dose of pain-killer like morphine would make her die sooner. She was delirious and almost crazy with pain, and in her calm periods, she would ask the doctor to give her enough morphine to kill her. She said she couldn't stand the pain and that she was going to die in a few months anyway.

What should the doctor do? (Check one)

____He should give the lady an overdose that will make her die

____Can't decide

____Should not give the overdose

IMPORTANCE

Great	Much	Some	Little	No		
					1.	Whether the woman's family is in favor of giving her the overdose or not
					2.	Is the doctor obligated by the same law as everybody else if giving her an overdose would be the same as killing her
					3.	Whether people would be much better off without society regimenting their lives and even their deaths
					4.	Whether the doctor could make it appear like an accident
					5.	Does the state have the right to force continued existence on those who don't want to live
					6.	What is the value of death prior to society's perspective on personal values
					7.	Whether the doctor has sympathy for the woman's suffering or cares more about what society might think
					8.	Is helping to end another's life ever a responsible act of cooperation
					9.	Whether only God should decide when a person's life should end
					10.	What values the doctor has set for himself in his own personal code of behaviour
					11.	Can society afford to let everybody end their lives when they want to
					12.	Can society allow suicides or mercy killing and still protect the lives of individuals who want to live

From the list of questions above, select the four most important:

Most Important _____

Second Most Important _____

Third Most Important _____

Fourth Most Important _____

Extracted from

Opinions About Social Problems

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FIGURE 4:1
PROPORTIONAL USE OF SEVENTEEN COMPONENT PROCEDURES,
FOR PHILOSOPHERS (n = 30) AND NINTH GRADERS (n = 29).

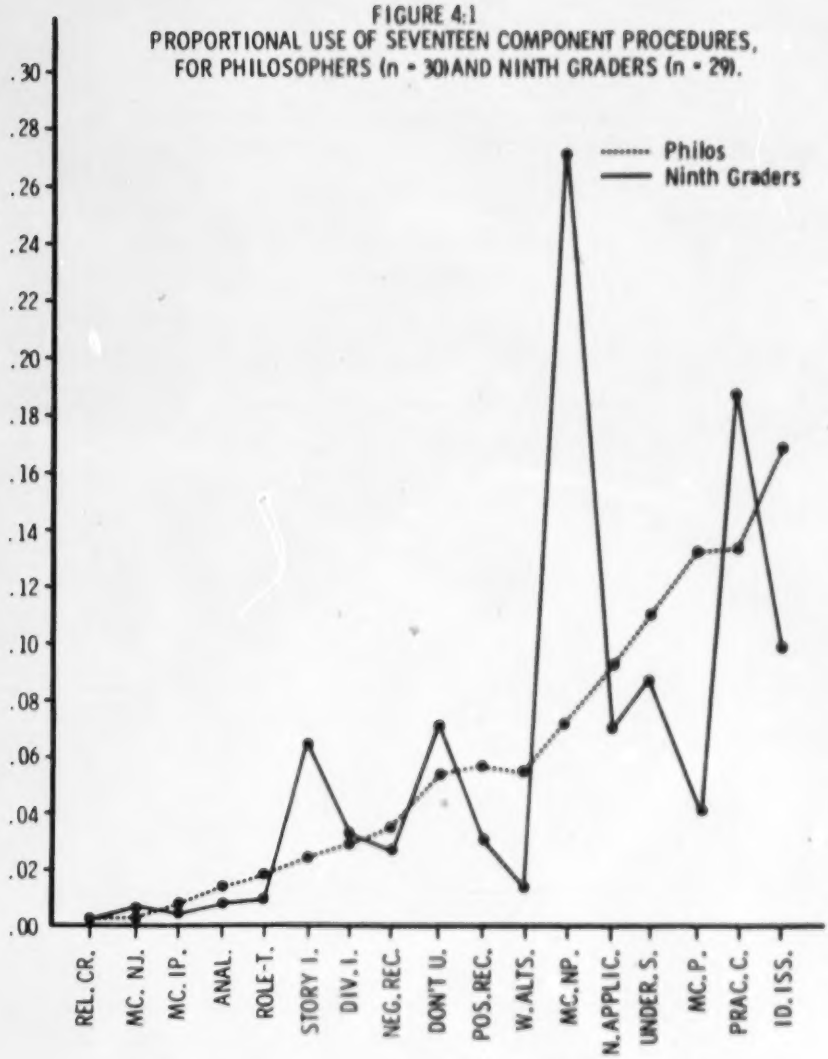

FIGURE 4.2
PROPORTIONAL USE OF SEVENTEEN COMPONENT PROCEDURES, FOR PHILOSOPHERS (n = 30) AND SEMINARIANS (n = 16).

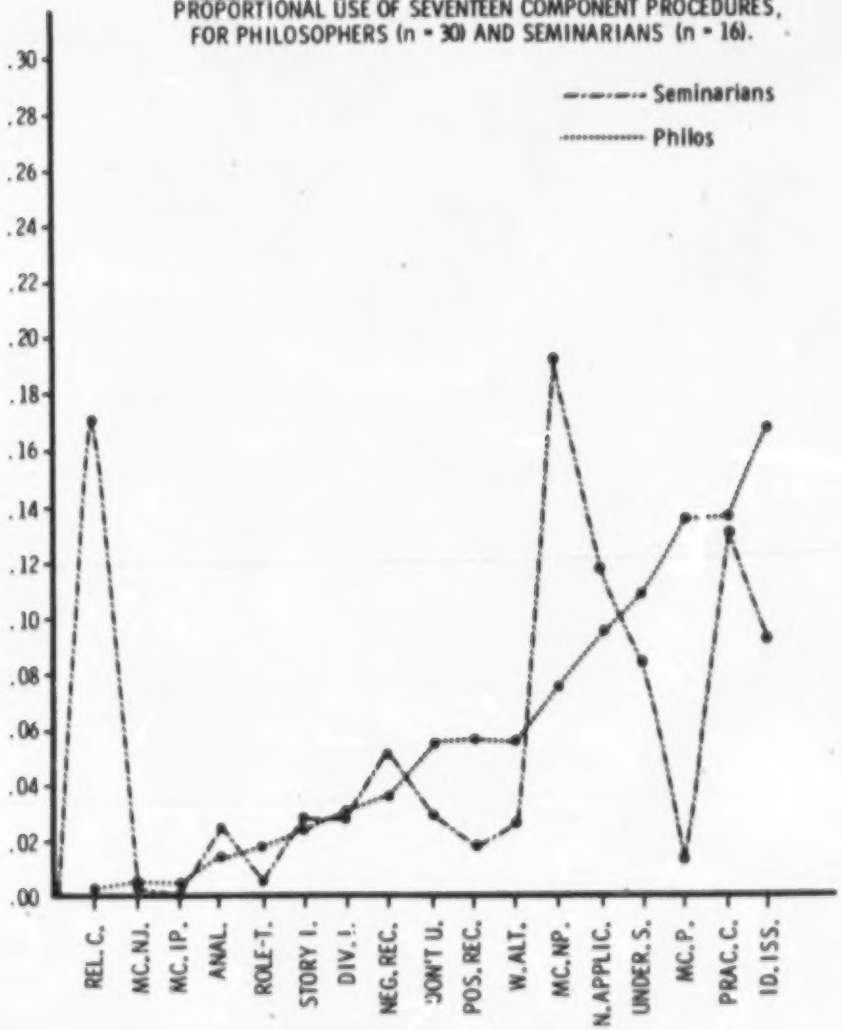

FIGURE 4.3
PROPORTIONAL USE OF SEVENTEEN COMPONENT PROCEDURES,
FOR NINTH GRADERS (n = 29) AND SEMINARIANS (n = 16).